

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) An image input device comprising:

an image input part into which an image is entered;

an image evaluation part which evaluates image quality or subject of the image by using a predetermined threshold value;

a cause determination part which determines a cause of image degradation corresponding to the image, based on an evaluation result of the image by the image evaluation part;

an output part which outputs to a user a ~~predetermined question~~ being selected based on the determined cause of image degradation determined by the cause determination part to determine the cause of image degradation of the image;

an answer input part into which an answer to the ~~predetermined question~~ is entered;
and

a cause determination part which determines whether a match occurs or not between the cause of image degradation and the cause of image degradation corresponding to the answer, wherein

in a case where the cause determination part determines that the cause of image degradation and the cause of image degradation corresponding to the answer do not match with each other, the image evaluation part changes the predetermined threshold value used to evaluate the image so that the cause of image degradation and the cause of image degradation corresponding to the answer can match with each other.

2. (Original) The image input device according to claim 1, wherein

the image evaluation part comprises:

an intensity determination part which determines whether intensity of the image is within a first threshold range or not;

a degree-of-focusing determination part which determines whether a degree of focusing of the image is within a second threshold range or not;

a subject detection part which detects a presence or absence of an area which is assumed to be the subject of the image; and

a high intensity area detection part which detects a presence or absence of a high intensity area exceeding a third threshold range from the image.

3. (Original) The image input device according to claim 2, wherein

the cause determination part determines that the cause of image degradation is reflection due to external light when:

the intensity determination part determines that the intensity of the image is within the first threshold range;

the degree-of-focusing determination part determines that the degree of focusing of the image is within the second threshold range;

the subject detection part detects the area which is assumed to be the subject of the image; and

the high intensity area detection part determines that there is no area exceeding the third threshold range in the image.

4. (Original) The image input device according to claim 3, wherein

when the cause determination part determines that the cause of image degradation and the cause of image degradation corresponding to the answer do not match with each other, the image evaluation part changes one of the first threshold range, the second threshold range and the third threshold range.

5. (Previously Presented) The image input device according to claim 1 further comprising:

an irradiation part which irradiates the subject; and

an irradiation output control part which controls an output of the irradiation part, wherein

when the cause determination part determines that the cause of image degradation is reflection due to the external light, the irradiation output control part increases the output of the irradiation part.

6. (Currently Amended) An image input device comprising:

an image input part into which an image of a subject is entered;

an intensity determination part which determines whether intensity of the image is within a first threshold range or not;

a degree-of-focusing determination part which determines whether a degree of focusing of the image is within a second threshold range or not;

a subject detection part which detects a presence or absence of an area which is assumed to be the subject of the image;

a high intensity area detection part which detects a presence or absence of a high intensity area exceeding a third threshold range from the image; and

a cause determination part which determines that a cause of image degradation of the image is reflection of an object off the cornea due to external light when:

the intensity determination part determines that the intensity of the image is within the first threshold range;

the degree-of-focusing determination part determines that the degree of focusing of the image is within the second threshold range;

the subject detection part detects the area which is assumed to be the subject of the image; and

the high intensity area detection part determines that there is no area exceeding the third threshold range in the image.

7. (Previously Presented) An authentication device comprising:

an image input device according to claim 1; and

an authentication process part which performs an authentication process by generating authentication information from an image outputted from an image evaluation part of the image input device, and by comparing the authentication information with registered authentication information previously registered.

8. (Original) The authentication device according to claim 7, wherein

the image is an eye image of a user to be authenticated;

the authentication process part comprises:

an authentication information generation part which generates the authentication information by encoding an iris area contained in the eye image;

a storage part which stores the registered authentication information previously registered; and

a comparison and collation part which compares and collates the registered authentication information stored in the storage part with the authentication information generated by the authentication information generation part.

9. (Previously Presented) The image input device according to claim 2 further comprising:

an irradiation part which irradiates the subject; and

an irradiation output control part which controls an output of the irradiation part, wherein

when the cause determination part determines that the cause of image degradation is reflection due to the external light, the irradiation output control part increases the output of the irradiation part.

10. (Previously Presented) The image input device according to claim 3 further comprising:

an irradiation part which irradiates the subject; and

an irradiation output control part which controls an output of the irradiation part, wherein

when the cause determination part determines that the cause of image degradation is reflection due to the external light, the irradiation output control part increases the output of the irradiation part.

11. (Previously Presented) The image input device according to claim 4 further comprising:

an irradiation part which irradiates the subject; and

an irradiation output control part which controls an output of the irradiation part,
wherein

when the cause determination part determines that the cause of image degradation is reflection due to the external light, the irradiation output control part increases the output of the irradiation part.

12. (Previously Presented) An authentication device comprising:

an image input device according to claim 2; and

an authentication process part which performs an authentication process by generating authentication information from an image outputted from an image evaluation part of the image input device, and by comparing the authentication information with registered authentication information previously registered.

13. (Previously Presented) An authentication device comprising:

an image input device according to claim 3; and

an authentication process part which performs an authentication process by generating authentication information from an image outputted from an image evaluation part of the image input device, and by comparing the authentication information with registered authentication information previously registered.

14. (Previously Presented) An authentication device comprising:

an image input device according to claim 4; and

an authentication process part which performs an authentication process by generating authentication information from an image outputted from an image evaluation part of the

image input device, and by comparing the authentication information with registered authentication information previously registered.

15. (Previously Presented) An authentication device comprising:

an image input device according to claim 5; and

an authentication process part which performs an authentication process by generating authentication information from an image outputted from an image evaluation part of the image input device, and by comparing the authentication information with registered authentication information previously registered.

16. (Previously Presented) An authentication device comprising:

an image input device according to claim 6; and

an authentication process part which performs an authentication process by generating authentication information from an image outputted from an image evaluation part of the image input device, and by comparing the authentication information with registered authentication information previously registered.

17. (Previously Presented) An authentication device comprising:

an image input device according to claim 9; and

an authentication process part which performs an authentication process by generating authentication information from an image outputted from an image evaluation part of the image input device, and by comparing the authentication information with registered authentication information previously registered.

18. (Previously Presented) An authentication device comprising:

an image input device according to claim 10; and

an authentication process part which performs an authentication process by generating authentication information from an image outputted from an image evaluation part of the image input device, and by comparing the authentication information with registered authentication information previously registered.

19. (Previously Presented) An authentication device comprising:

an image input device according to claim 11; and

an authentication process part which performs an authentication process by generating authentication information from an image outputted from an image evaluation part of the image input device, and by comparing the authentication information with registered authentication information previously registered.

20. (Previously Presented) The authentication device according to claim 12, wherein

the image is an eye image of a user to be authenticated;

the authentication process part comprises:

an authentication information generation part which generates the authentication information by encoding an iris area contained in the eye image;

a storage part which stores the registered authentication information previously registered; and

a comparison and collation part which compares and collates the registered authentication information stored in the storage part with the authentication information generated by the authentication information generation part.

21. (Previously Presented) The authentication device according to claim 13, wherein

the image is an eye image of a user to be authenticated;

the authentication process part comprises:

an authentication information generation part which generates the authentication information by encoding an iris area contained in the eye image;

a storage part which stores the registered authentication information previously registered; and

a comparison and collation part which compares and collates the registered authentication information stored in the storage part with the authentication information generated by the authentication information generation part.

22. (Previously Presented) The authentication device according to claim 14, wherein

the image is an eye image of a user to be authenticated;

the authentication process part comprises:

an authentication information generation part which generates the authentication information by encoding an iris area contained in the eye image;

a storage part which stores the registered authentication information previously registered; and

a comparison and collation part which compares and collates the registered authentication information stored in the storage part with the authentication information generated by the authentication information generation part.

23. (Previously Presented) The authentication device according to claim 15, wherein

the image is an eye image of a user to be authenticated;

the authentication process part comprises:

an authentication information generation part which generates the authentication information by encoding an iris area contained in the eye image;

a storage part which stores the registered authentication information previously registered; and

a comparison and collation part which compares and collates the registered authentication information stored in the storage part with the authentication information generated by the authentication information generation part.

24. (Previously Presented) The authentication device according to claim 16, wherein

the image is an eye image of a user to be authenticated;

the authentication process part comprises:

an authentication information generation part which generates the authentication information by encoding an iris area contained in the eye image;

a storage part which stores the registered authentication information previously registered; and

a comparison and collation part which compares and collates the registered authentication information stored in the storage part with the authentication information generated by the authentication information generation part.

25. (Previously Presented) The authentication device according to claim 17, wherein

the image is an eye image of a user to be authenticated;

the authentication process part comprises:

an authentication information generation part which generates the authentication information by encoding an iris area contained in the eye image;

a storage part which stores the registered authentication information previously registered; and

a comparison and collation part which compares and collates the registered authentication information stored in the storage part with the authentication information generated by the authentication information generation part.

26. (Previously Presented) The authentication device according to claim 18, wherein

the image is an eye image of a user to be authenticated;

the authentication process part comprises:

an authentication information generation part which generates the authentication information by encoding an iris area contained in the eye image;

a storage part which stores the registered authentication information previously registered; and

a comparison and collation part which compares and collates the registered authentication information stored in the storage part with the authentication information generated by the authentication information generation part.

27. (Previously Presented) The authentication device according to claim 19, wherein

the image is an eye image of a user to be authenticated;

the authentication process part comprises:

an authentication information generation part which generates the authentication information by encoding an iris area contained in the eye image;

a storage part which stores the registered authentication information previously registered; and

a comparison and collation part which compares and collates the registered authentication information stored in the storage part with the authentication information generated by the authentication information generation part.